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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/660,110	09/12/2000	Thomas P. Hardjono	120-348	6748

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EXAMINER	
CHOUDHURY, AZIZUL Q	
ART UNIT	**PAPER NUMBER**
2145	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/660,110	HARDJONO ET AL.	
	Examiner	Art Unit	
	Azizul Choudhury	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-15 and 17-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-15 and 17-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

This office action is in response to the correspondence received on February 12, 2007.

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-15 and 17-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Araujo et al (US Patent No: 6,097,720) in view of McCanne et al (US Patent No: 6,415,323), hereafter referred to as Araujo and McCanne, respectively.

1. With regards to claims 1, 4, 15, 28, and 42, Araujo teaches in view of McCanne, a multicast communication system comprising a plurality of subscriber locations (column 2, lines 21-56, Araujo), each subscriber location having an access device (equivalent to intermediate device, column 2, lines 21-40, Araujo) through which a number of subscriber (equivalent to multicast receiving end station (CPE) (column 2, lines 21-40, Araujo)) devices access multicast information sent by a multicast distribution device

(equivalent to multicast source end station (RAS) (column 2, lines 21-40, Araujo)) wherein each access device acts as a sole multicast receiver for its respective subscriber location and distributes multicast information received from the multicast distribution device to the subscriber devices at its respective subscriber location (column 2, lines 43-56, Araujo), wherein each said access device acts to join and leave at least one multicast group on behalf of the subscriber devices at its respective subscriber location, and wherein each said access device processes a join request from one of said subscriber devices by determining whether said access device is already joined to a multicast group indicated by said join request (column 6, lines 40-57, Araujo), and, in the event that said access device is not already joined to said multicast group indicated by said join request, sending a join request to said multicast distribution device (column 2, lines 21-56, Araujo), wherein said joining said multicast group by said access device on behalf of said first subscriber device includes authenticating, in response to said second join request, said access device by said multicast distribution device, and wherein said multicast distribution device does not authenticate said one of said subscriber devices (ID information is used to transfer messages to and from the correct CPE (column 2, lines 43-56, Araujo). In addition, Araujo's design allows for PPP connections between multicast source end (equivalent to multicast distribution device) and the intermediate device (equivalent to access device) (column 2, lines 21-56, Araujo). PPP connections feature authentication if desired. However, Araujo's design does not explicitly cite the use of authentication.

In the same field of endeavor, McCanne teaches a multicast system wherein clients (equivalent to claimed subscriber) obtain multicast data through access points (equivalent to the claimed access device) just as the claimed invention (column 6, lines 5-13, McCanne). In addition, McCanne teaches how user authentication is performed thanks to the access points (column 6, lines 5-13, McCanne)).

2. With regards to claims 2, 8, 29 and 43, Araujo teaches in view of McCanne, a communication system wherein the multicast distribution device distributes multicast information for a number of multicast groups (column 2, lines 43-56, Araujo), and wherein each access device uses a predetermined multicast group management protocol to join the multicast group on behalf of the subscriber devices at its respective subscriber location (column 6, lines 40-44, Araujo).

3. With regards to claims 3, 30, 31, 44 and 45, Araujo teaches in view of McCanne, a communication system wherein the predetermined multicast group management protocol is an Internet Group Management Protocol (IGMP) (column 11, lines 16-18, Araujo).

4. With regards to claim 6, Araujo teaches in view of McCanne, a communication system wherein each access device is coupled to a separate interface of the multicast distribution device (column 6, lines 4-25, Araujo).

5. With regards to claim 7, Araujo teaches in view of McCanne, a communication system wherein the multicast distribution device identifies each access device based upon the interface to which the access device is coupled (column 2, lines 43-56, Araujo).

6. With regards to claim 9, Araujo teaches in view of McCanne, a communication system wherein the multicast distribution device sends multicast information to the access devices based upon multicast group memberships of the access devices (column 2, lines 43-56, Araujo).

7. With regards to claim 10, Araujo teaches in view of McCanne, a communication system, wherein each access device distributes multicast information received from the multicast distribution device to its respective subscriber devices (column 2, lines 43-56, Araujo).

8. With regards to claims 11 and 27, Araujo teaches in view of McCanne, a communication system wherein the multicast distribution device maintains accounting information for each subnetwork (column 2, lines 43-50 (join messages include ID information) and column 11, lines 42-61, Araujo).

9. With regards to claim 12, Araujo teaches in view of McCanne, a communication system wherein the accounting information comprises multicast group memberships for each subnetwork (column 2, lines 21-56 and column 11, lines 56-61, Araujo).

10. With regards to claim 13, Araujo teaches in view of McCanne, a communication system wherein the accounting information comprises duration for each multicast group membership for each subnetwork (column 11, lines 56-61, Araujo).

11. With regards to claim 14, Araujo teaches in view of McCanne, a communication system wherein the accounting information comprises a volume of multicast information for each multicast group membership for each subnetwork (column 11, lines 42-61, Araujo).

12. With regards to claim 17, Araujo teaches in view of McCanne, an access control method (a system can be a method) wherein authenticating the access device by the multicast distribution device comprises: identifying the access device by the multicast distribution device (ID information is used to transfer messages to and from the correct CPE (column 2, lines 43-56, Araujo).

13. With regards to claim 18, Araujo teaches in view of McCanne, an access control method (a system can be a method) wherein the access device is coupled to an interface of the multicast distribution device, and wherein identifying the access device

by the multicast distribution device comprises: identifying the access device based upon the interface over which the second join request is received by the multicast distribution device (column 3, lines 52-56, Araujo).

14. With regards to claim 19, Araujo teaches in view of McCanne, an access control method (a system can be a method) authenticating the access device by the multicast distribution device comprises: authenticating the access device using a predetermined authentication scheme (Araujo's design allows for PPP connections between nodes (column 2, lines 21-56, Araujo). PPP features authentication. Plus, McCanne's design allows for authentication (column 6, lines 5-13, McCanne). Authentication schemes are inherently required with authentications).

15. With regards to claim 20, Araujo teaches in view of McCanne, an access control method (a system can be a method) wherein the predetermined authentication scheme comprises IPsec AH (Various protocols are applicable to Araujo's design (column 3, lines 14-30, Araujo)).

16. With regards to claim 21, Araujo teaches in view of McCanne, an access control method (a system can be a method) further comprising:

- Determining by the multicast distribution device that the access device is authentic (Araujo's design allows for PPP connections between nodes (column 2, lines 21-56, Araujo). PPP features authentication. Plus,

McCanne's design allows for authentication (column 6, lines 5-13, McCanne)); and

- Establishing a multicast group membership for the access device by the multicast distribution device (column 2, lines 43-56, Araujo).

17. With regards to claim 22, Araujo teaches in view of McCanne, an access control method (a system can be a method) further comprising:

- Determining by the multicast distribution device that the access device is not authentic (Araujo's design allows for PPP connections between nodes (column 2, lines 21-56, Araujo). PPP features authentication. Plus, McCanne's design allows for authentication (column 6, lines 5-13, McCanne)); and
- Denying a multicast group membership for the access device by the multicast distribution device (It is inherent that when authentication fails, access is denied).

18. With regards to claim 23, Araujo teaches in view of McCanne, an access control method (a system can be a method) wherein associating the first subscriber device with the multicast group by the access device comprises:

- Maintaining by the access device a list of subscriber devices associated with the multicast group (This is inherent since the access device communicates

information to and from the subscriber devices, it has to know what subscriber devices exist (i.e. a list)); and

- Adding the first subscriber device to the list of subscriber devices associated with the multicast group (column 2, lines 43-56, Araujo).

19. With regards to claim 24, Araujo teaches in view of McCanne, an access control method (a system can be a method) further comprising: leaving the multicast group by the first subscriber device; leaving the multicast group by the access device on behalf of the first subscriber device; and disassociating the first subscriber device from the multicast group by the access device (It is inherent that since joining means are present that leaving means are also present (column 6, lines 40-57, Araujo)).

20. With regards to claim 25, Araujo teaches in view of McCanne, an access control method (a system can be a method) further comprising:

- Joining the multicast group by a second subscriber device, wherein joining the multicast group by the second subscriber device comprises: sending a third join request by the second subscriber device to the access device using a third multicast group management protocol (column 6, lines 40-57, Araujo); and
- Associating the second subscriber device with the multicast group by the access device (column 2, lines 21-56, Araujo).

21. With regards to claim 26, Araujo teaches in view of McCanne, an access control method (a system can be a method) further comprising: leaving the multicast group by one of the first subscriber device and the second subscriber device; remaining joined to the multicast group by the access device on behalf of the remaining subscriber device; and disassociating said one of the first subscriber device and the second subscriber device from the multicast group by the access device (It is inherent that since joining means are present that leaving means are also present (column 6, lines 40-57, Araujo)).

22. With regards to claims 32, 33, 46 and 47, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the membership logic is operably coupled to associate the first multicast group memberships with the second multicast group memberships (column 2, lines 43-56 and column 11, lines 56-61, Araujo).

23. With regards to claims 34 and 48, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the first multicast group management logic is operably coupled to receive a join request from a subscriber device for joining a multicast group (column 2, lines 43-56, Araujo).

24. With regards to claims 35 and 49, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the second multicast

group management logic is operably coupled to join the multicast group on behalf of the first subscriber device (column 2, lines 21-56, Araujo).

25. With regards to claims 36 and 50, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the membership logic is operably coupled to associate the first subscriber device with the multicast group (column 2, lines 43-56, Araujo).

26. With regards to claims 37, 38, 51 and 52, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the first multicast group management logic is operably coupled to determine that a subscriber device has left a multicast group (It is inherent that since joining means are present that leaving means are also present (column 6, lines 40-57, Araujo)).

27. With regards to claims 39 and 53, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the second multicast group management logic is operably coupled to determine whether there are any remaining subscriber devices associated with the multicast group based upon the membership information maintained by the membership logic (column 2, lines 43-56 and column 11, lines 56-61, Araujo).

28. With regards to claims 40 and 54, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the second multicast group management logic is operably coupled to remain a member of the multicast group upon determining that there is at least one remaining subscriber device associated with the multicast group (column 2, lines 43-56 and column 11, lines 56-61, Araujo).

29. With regards to claims 41 and 55, Araujo teaches in view of McCanne, an apparatus (a system can be an apparatus and a program) wherein the second multicast group management logic is operably coupled to leave the multicast group upon determining that there are no remaining subscriber devices associated with the multicast group (It is inherent that since joining means are present that leaving means are also present (column 6, lines 40-57, Araujo)).

30. With regards to claim 56, Araujo teaches in view of McCanne, a program embodied in a computer readable medium (column 8, lines 14-29, Araujo).

31. With regards to claim 57, Araujo teaches in view of McCanne, a program embodied in a data signal (column 8, lines 14-29, Araujo).

32. The obviousness motivation applied to claims 1, 4, 15, 28, and 42 are applicable to claims 2-3, 6-14, 17-27, 29-41 and 43-57.

Remarks

In lieu of the correspondence received on February 12, 2007, the finality of the rejection of the last Office action is withdrawn. A new search has been performed and a new 103-type rejection has been created.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Azizul Choudhury whose telephone number is (571) 272-3909. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

JASON CARDONE
SUPERVISORY PATENT EXAMINER